Attorney Docket No.: 40101/09501 (2004.005)

REMARKS

I.   INTRODUCTION

Claims 1, 6, 16, 19, 24 and 25 have been amended. Claim 17 has been canceled. No new matter has been added. Thus, claims 1-16 and 18-25 remain pending in the present application. Applicant wishes to thank the Examiner for indicating that claims 12-15 are allowable. However, in view of the above amendments and the following remarks, it is respectfully submitted that all of the pending claims are allowable.

II.   CLAIM REJECTIONS – 35 U.S.C. § 102(e)

Claims 1-5, 7, 8, 11, 19, 20 and 22-24 stand rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent Pub. 2005/0018683 to Zhao et al. (hereinafter "Zhao"). (See 6/21/07 Office Action, pp. 2-7.)

Initially, the Applicant notes that the priority date of the present application is November 26, 2003, and the priority date for Zhao is July 21, 2003. Thus, while the Applicant is distinguishing the claims of the present application from the disclosure of Zhao, the Applicant does not concede that Zhao is prior art to the present application.

Zhao describes a system and method for storing binary IP addresses in memory. (See Zhao, Abstract.) A common number of trailing zero bytes is removed from the end of each of a group of uncompressed binary IP addresses. (See id., ¶ [0050].) The number is selected as the number of trailing zero bytes that each of the IP addresses has in common. (See id., ¶ [0050].)

Claim 1, as amended, recites "[a] method, comprising: *identifying a longest chain of zero bytes in an uncompressed IPv6 address*, the chain of zero bytes having a chain length and a chain location, generating a compressed IPv6 address corresponding to the uncompressed IPv6 address by removing the chain of zero bytes from the uncompressed IPv6 address and providing

10

compression information for the compressed IPv6 address, the compression information corresponding to the chain length and the chain location."

Zhao discloses identifying a chain of zero bytes for removal only from the end of an uncompressed binary IP address. Further, the specific number of zero bytes to be removed is based on the commonality among a group of IP addresses to be compressed. (See id., ¶ [0050].) Therefore, Applicant respectfully submits that Zhao does not disclose "identifying a longest chain of zero bytes in an uncompressed IPv6 address," as recited in claim 1. Accordingly, this rejection should be withdrawn. Because claims 2-5 depend from, and, therefore, include all of the limitations of claim 1, it is respectfully submitted that these claims are also allowable for at least the reasons stated above.

Claim 7 recites "[a] method, comprising determining a chain location and chain length of a chain of zero bytes removed from a compressed IPv6 address based on compression information of the compressed IPv6 address, the compressed IPv6 address having a number of pre-chain location bytes and a number of post-chain location bytes; comparing pre-chain location bytes of the compressed IPv6 address to corresponding bytes of the uncompressed IPv6 address, and reporting a result when at least one pair of such pre-chain corresponding bytes is different; when no result is reported, comparing bytes of the uncompressed IPv6 address corresponding to the chain of zero bytes, and reporting the result when at least one of the bytes of the uncompressed IPv6 address corresponding to the chain of zero bytes is non-zero; when no result is reported, *comparing post-chain location bytes of the compressed IPv6 address to corresponding bytes of the uncompressed IPv6 address, and reporting the result.*"

As discussed above with reference to claim 1, Zhao only discloses removing chains of *trailing* zero bytes, i.e., zero bytes located at the end of an IP address. Because the chain of zero bytes is located at the end of an IP address, there can be no "post-chain location bytes;" no bytes are located after the chain. Therefore, Applicant respectfully submits that Zhao does not disclose "comparing post-chain location bytes of the compressed IPv6 address to corresponding bytes of the uncompressed IPv6 address, and reporting the result." Accordingly, this rejection should be withdrawn. Because claims 8 and 11 depend from, and, therefore, include all of the limitations

11

of claim 7, it is respectfully submitted that these claims are also allowable for at least the reasons stated above.

As amended, claim 19 recites "[a] method, comprising: receiving a message containing an IPv6 destination address; comparing the IPv6 destination address to a compressed IPv6 address stored in a routing table; and when the IPv6 destination address matches the compressed IPv6 address, retrieving forwarding information corresponding to the compressed IPv6 address; forwarding the message according to the forwarding information, *wherein the compressed IPv6 address is compressed by removal of a longest chain of zero bytes from an uncompressed version of the compressed IPv6 address.*" For the reasons discussed above with reference to claim 1, Applicant respectfully submits that Zhao does not disclose "wherein the compressed IPv6 address is compressed by removal of a longest chain of zero bytes from an uncompressed version of the compressed IPv6 address," as recited in claim 19. Accordingly, this rejection should be withdrawn. Because claims 20, 22 and 23 depend from, and, therefore, include all of the limitations of claim 19, it is respectfully submitted that these claims are also allowable for at least the reasons stated above.

As amended, claim 24 recites "A computer readable medium, comprising: a set of instructions to a processing system, the set of instructions configured to control the processing system to perform the steps of--receiving a message containing an IPv6 destination address; comparing the IPv6 destination address to a compressed IPv6 address stored in a routing table, and when the IPv6 destination address matches the compressed IPv6 address, retrieving forwarding information corresponding to the compressed IPv6 address; forwarding the message according to the forwarding information, *wherein the compressed IPv6 address is compressed by removal of a longest chain of zero bytes from an uncompressed version of the compressed IPv6 address.*" For the reasons discussed above with reference to claim 1, Applicant respectfully submits that Zhao does not disclose "wherein the compressed IPv6 address is compressed by removal of a longest chain of zero bytes from an uncompressed version of the compressed IPv6 address," as recited in claim 24. Accordingly, this rejection should be withdrawn.

12

II.   CLAIM REJECTIONS – 35 U.S.C. § 103(a)

Claim 6 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Zhao. (See 6/21/07 Office Action, pp. 7-8.)

Claim 6, as amended, recites "[a] method, comprising: identifying compression information of a compressed IPv6 address, the compression information corresponding to a chain length and a chain location of a chain of zero bytes removed from an uncompressed IPv6 address corresponding to the compressed IPv6 address, generating the uncompressed IPv6 address by adding the chain of zero bytes having the chain length to the compressed IPv6 address at the chain location and eliminating the compression information, *wherein the compressed IPv6 address is compressed by removing a longest chain of zero bytes from the uncompressed IPv6 address.*"

Applicant respectfully submits that Zhao does not disclose or suggest "wherein the compressed IPv6 address is compressed by removing a longest chain of zero bytes from the uncompressed IPv6 address," as recited in claim 6, for the reasons discussed above with reference to claim 1. Accordingly, this rejection should be withdrawn.

Claims 9, 10 and 21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Zhao in view of U.S. Patent Pub. 2003/0193956 to Dietrich (hereinafter "Dietrich"). (See 6/21/07 Office Action, pp. 8-9.)

Dietrich describes a method for routing an information packet towards an output port of a telecommunication router. (See Dietrich, Abstract.) Dietrich contains no disclosure relating to selecting and removing chains of zero bytes from IP addresses in order to create compressed IP addresses. Therefore, Applicant respectfully submits that Zhao and Dietrich, alone or in combination, neither disclose nor suggest "comparing post-chain location bytes of the compressed IPv6 address to corresponding bytes of the uncompressed IPv6 address, and reporting the result," as recited in claim 7, for the reasons discussed above with reference to claim 7. Because claims 9 and 10 depend from, and, therefore, include all of the limitations of

13

claim 7, it is respectfully submitted that these claims are therefore allowable.   For the same

reasons, Applicant respectfully submits that Zhao and Dietrich, alone or in combination, neither

disclose nor suggest "comparing post-chain location bytes of the compressed IPv6 address to

corresponding bytes of the IPv6 destination address," as recited in claim 20. Because claim 21

depends from, and, therefore, includes all of the limitations of claim 20, it is respectfully

submitted that this claim is therefore allowable.

Claims 16, 18 and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Zhao

in view of U.S. Patent Pub. 2004/0264465 to Dunk (hereinafter "Dunk"). (See 6/21/07 Office

Action, pp. 9-11.)

Dunk describes systems and methods for facilitating communication of user information

between a host computer of an IPv4 communication network and an IPv6 wireless

communication device. (See Dunk, Abstract.) Dunk contains no disclosure regarding

compression of IP addresses.

Claim 16, as amended, recites "A method, comprising receiving an OSPF message

containing an LSA having an uncompressed IPv6 address; compressing the uncompressed IPv6

address into a corresponding compressed IPv6 address; storing the LSA in a link state database,

the LSA containing the compressed IPv6 address, wherein the compressing is preformed by

identifying a longest chain of zero bytes in the uncompressed IPv6 address, the chain of zero

bytes having a chain length and a chain location, and generating the corresponding compressed

IPv6 address by removing the chain of zero bytes from the uncompressed IPv6 address and

providing compression information for the compressed IPv6 address, the compression

information corresponding to the chain length and the chain location."

For the reasons discussed above with reference to claim 1, and because Dunk contains no

disclosure regarding compression of IP addresses, Applicant respectfully submits that Zhao and

Dunk, alone or in combination, neither disclose nor suggest "identifying a longest chain of zero

bytes in the uncompressed IPv6 address," as recited in claim 16. Accordingly, this rejection

should be withdrawn. Because claim 18 depends from, and, therefore, includes all of the

14

limitations of claim 16, it is respectfully submitted that this claim is also allowable for at least the reasons stated above.

Claim 25, as amended, recites "[a] computer readable medium, comprising: a set of instructions to a processing system, the set of instructions configured to control the processing system to perform the steps of— receiving an OSPF message containing an LSA having an uncompressed IPv6 address; compressing the uncompressed IPv6 address into a corresponding compressed IPv6 address; storing the LSA in a link state database, the LSA containing the compressed IPv6 address, wherein the compressing is performed by *identifying a longest chain of zero bytes in the uncompressed IPv6 address*, the chain of zero bytes having a chain length and a chain location, and generating the corresponding compressed IPv6 address by removing the chain of zero bytes from the uncompressed IPv6 address and providing compression information for the compressed IPv6 address, the compression information corresponding to the chain length and the chain location."

For the reasons discussed above with reference to claim 16, Applicant respectfully submits that Zhao and Dunk, alone or in combination, neither disclose nor suggest "identifying a longest chain of zero bytes in the uncompressed IPv6 address," as recited in claim 25. Accordingly, this rejection should be withdrawn.

15

Attorney Docket No.: 40101/09501 (2004.005)

CONCLUSION

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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16